

NASA TECH BRIEF



NASA Tech Briefs are issued to summarize specific innovations derived from the U.S. space program, to encourage their commercial application. Copies are available to the public at 15 cents each from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

Novel Terminal Strips for Transformers

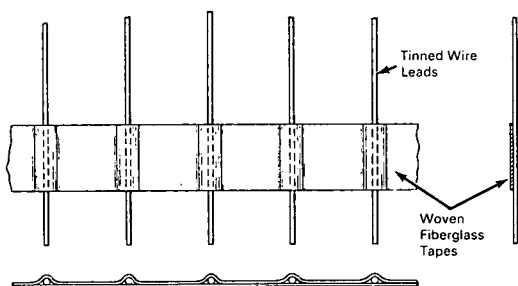


Fig. 1. Taped Terminal Leads

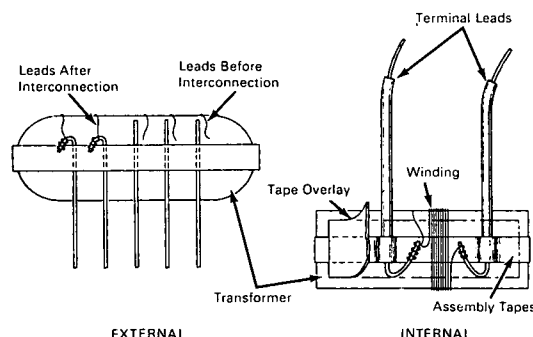


Fig. 2. External and Internal Terminations

The problem:

Improvement in spacing and anchoring of terminal leads for transformers and toroidal coils. Hitherto fine leads from transformers, toroidal coils, and similar devices have been soldered to larger terminal leads, the soldered joints being held close to each unit by adhesive tape. With gradual deterioration of the tape the fine wire has often broken, the result being disastrous pulling-out of taped leads from the transformer; or the crossover of wires, with shorting at the soldering points.

The solution:

A new technique consists in appropriate spacing of the tinned terminal leads between two tapes of woven glass fiber that are sandwich-bonded with pliable epoxy adhesive (Fig. 1); the individual leads may or may not be enclosed in glass-fiber sleeves. For external lead-termination for a transformer (Fig. 2, left), leads from the transformer are wrapped about the taped terminal leads and soldered to them; two of five leads are shown connected. Figure 2 (right) shows use of the terminal tape in an internal lead-termination (the

leads are sleeved); a tape overlay provides additional insulation after the soldering.

For practical application, groups of terminal wires could be assembled and taped on a continuous-strip machine or in an injection-molding machine. For the method described, the innovator has used a mold made of a TFE fluorocarbon for assembly and curing of the tapes.

The technique is especially useful for manufactured transformers using wires finer than 36-gauge; it increases their reliability, especially by better anchoring of the leads. Manufacturers or repairers of transformers or toroidal coils may be interested.

Note:

No further documentation is available. Inquiries may be directed to:

Technology Utilization Officer
NASA Pasadena Office
4800 Oak Grove Drive
Pasadena, California 91103
Reference: B69-10246

(continued overleaf)

Patent status:

No patent action is contemplated by NASA.

Source: E. M. Wiler of
Jet Propulsion Laboratory
California Institute of Technology
under contract to
NASA Pasadena Office
(NPO-10842)